

YAMAGATA

Serial No. **09/391,399**

Amendment dated May 17, 2004

Reply to Office Action dated December 17, 2003

REMARKS

Upon entry of this amendment, claims 1-12 and 15 are pending in the present application. By the present amendment, claims 13 and 14 have been canceled without prejudice, claims 1 and 6 have been amended, and new claim 15 has been added. Favorable reconsideration of the application is earnestly solicited.

The rejection of claims 1-14 under 35 U.S.C. §103(a) over Wilk (U.S. Patent No. 5,899,857) in view of Englund et al. (U.S. Patent No. 5,197,474, hereinafter "Englund") and further in view of McDougall (U.S. Patent No. 4,689,591), is respectfully traversed. Without acquiescing in the rejection, it is noted that claims 1 and 6 have been amended for clarity, and that claims 13 and 14 have been canceled without prejudice or disclaimer as to the subject matter contained therein.

At the outset, it is noted that the claimed invention provides, among other things, a novel patient couch controller that moves the patient couch based on position information. Thus, the patient couch controller of the claimed invention can move the patient couch so that the *region of interest* coincides with substantially the three-dimensional center of the static magnetic field or the gradient magnetic field. There is no teaching or suggestion of this specifically claimed feature in the cited references.

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In particular, contrary to the allegations in the Office Action with respect to Wilk, it is respectfully submitted that Wilk fails to disclose or suggest that a patient couch controller moves the patient couch based on the position information so that the region of interest is positioned at substantially the three-dimensional center of at least one of the static magnetic field or the gradient magnetic field. Wilk teaches a scanner being disposed proximate the support for obtaining three-dimensional data as to an organic structure internal to the patient so as to enable positional tracking of the target region. In complete contrast to the allegations in the Office Action, Wilk makes clear that the patient is put in a predetermined position and is scanned to determine a three-dimensional target region internal to the patient. Then, directing the predetermined frequency to the target region in accordance with the positional coordinates. Thus, clearly, the frequency is re-directed, *not* the patient via movement of the patient couch (see, e.g., Col. 3, lines 45-65 and Col 3, line 67 – Col. 4, line 6). There is no teaching or suggestion in Wilk of moving the patient couch so that the region of interest is positioned *at substantially the three dimensional center of the static magnetic field or the gradient magnetic field*.

Moreover, it is respectfully noted that the allegation in the Office Action that the focal points of the electromagnetic radiation beam corresponds to the center of the gradient magnetic field is in error. It is well known that these are quite different technologies and that it is impossible to compare the focal points of Wilk with the center of the gradient magnetic field. Additionally, it is respectfully submitted that the

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explanation of the principles of MRI set forth in paragraph 8 are not understood. In particular the passage “and the application of additional RF magnetic fields applied before, with, or after the excitation pulse . . .” has no meaning.

It is respectfully submitted that neither Englund nor McDougall, either singly or in combination, overcome the fundamental deficiencies noted above with respect to Wilk. Specifically, with respect to Englund, the Office Action alleges that Englund teaches positioning/repositioning a patient bed upon which an RF coil is mounted so that the center of imaging of the RF coil is located in the axial direction of the magnet at the same point in the middle of the magnet. However, it is respectfully submitted that the subject matter of the claimed invention is *not* to position the center of the RF coil at the center of the magnetic field, but *rather*, to position the region of interest at substantially the center of the magnetic field. For example, if the center of the region of interest is out of the center of the RF coil, the couch must be moved to position a region of interest to the center of the magnetic field. However, Englund fails to teach or suggest such a feature. Thus, Englund cannot perform positioning such as, for example, that shown in Figure 7 at S3A.

Moreover, it is respectfully submitted that McDougall fails to overcome the fundamental deficiencies noted above with respect to Wilk and Englund. In particular, McDougall fails to teach or suggest the exemplary three-dimensional positioning of the claimed invention. For example, in Figure 1 of McDougall, when precidesly examining

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the right eye of the patient 21, it is possible only to position the eyes in the homogeneous region 10 or in the plane 20 passing through the center 11 of the homogeneous region 10.

In complete contrast, in the claimed invention, for example, it is possible to precisely position the right eye on the center 11 of the homogeneous region 10. Thus, for example, the claimed invention makes it possible to position the right eye (or region of interest) on an imaging plane and further on the specific point on the imaging plane.

In summary, none of the cited references disclose, teach or suggest the specifically claimed feature of a patient couch controller for adjusting the position of the patient couch three-dimensionally based on the position information so that the region of interest coincides substantially with at least one of the static magnetic field or the gradient magnetic field.

Therefore, even if, *arguendo*, the combination of Wilk, Englund and McDougall were proper, the combination nevertheless fails to render the claimed invention obvious. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

In view of the foregoing, it is respectfully submitted that the entire application is in condition for allowance. Favorable reconsideration of the application and prompt allowance of the claims are earnestly solicited.

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Should the Examiner deem that further issues require resolution prior to allowance, the Examiner is invited to contact the undersigned attorney of record at the telephone number set forth below.

Respectfully submitted,

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